



**UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/107,371 06/30/98 HAUCK

J 1270

EXAMINER

021834 QM32/0814
BECK AND TYSVER
2900 THOMAS AVENUE SOUTH
SUITE 100
MINNEAPOLIS MN 55419

RUBBY, D
ART UNIT

PAPER NUMBER

3739
DATE MAILED:

08/14/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/107,371

Applicant(s)

HAUCK ET AL.

Examiner

David M Ruddy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Belohlavek (patent #5,871,019). Belohlavek discloses a method for modeling a chamber of the heart in three dimensions, as seen in drawing figures 1 and 4-8 and as explained in column 5, lines 15-30; column 8, lines 13-30; column 10, lines 58-61; column 13, lines 19-38; and column 15, lines 23-34. As explained in the above referenced passages of column 5 and as shown in drawing figures 4-5, there is disclosed a method of collecting points in three dimensions and corresponding time parameters in combination with the steps of resampling and smoothing. The models are disclosed as being synchronized with specific phases of the cardiac cycle for specific cardiac parameter analysis.

Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Sheehan et al (patent #5,601,084). Sheehan et al., discloses a method for modeling a chamber of the heart in three dimensions, as seen in drawing figures 10-14 and as explained in

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column 1, lines 30-37; column 9, lines 48-65 (with particular reference to the X,Y,Z, and time data-parameters); column 10, lines 6-16; column 13, lines 20-67; and column 19. Sheehan et al. disclose a method of determining cardiac wall boundaries and cardiac wall velocity and cardiac chamber volume by an analysis of points at different portions of the cardiac cycle. The method is used to determine a patient cardiac health by a determination of cardiac wall motion and ejection fraction.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sheehan et al. In regard to the rejections above, Sheehan et al. disclose all that is claimed except an expressly disclose step of measuring cardiac wall acceleration. As explained throughout the reference of Sheehan et al., the cardiac wall velocity is determined by a change in cardiac wall position with respect to time as determined by the specific portion of the cardiac cycle. Accordingly, one having ordinary skill in Newtonian physics would realize that the determination of acceleration can be made by taking the second derivative of position (ie. an acceleration determination can be made by measuring the change in velocity with respect to time). The determination of acceleration is advantageous in that various cardiovascular parameters (such as blood flow and force

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of ejection) can be determined based on its measurement. Accordingly, it would have been obvious to one having ordinary skill in the art to determine the heart wall acceleration.

Response to Arguments

Applicant's arguments filed 5/14/2001 have been fully considered but they are not persuasive. In response to Applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "a method of evaluating points with the objective of computing wall location from the most exterior set of points at any moment in the cardiac cycle") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

It is further noted that "[d]uring patent examination the pending claims must be interpreted as broadly as their terms reasonably allow. . . . The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed. . . .An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process." *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989).

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From the language on page 2 of the most recent response, it appears that Applicant intends the term "convex hull shape" to mean much more than what a broadest reasonable interpretation would allow. One having any skill in the art would realize that the terms "convex" and "hull" can be interpreted as just that, the computation of a convex hull shape (the method of which is clearly disclosed by the references of Sheehan et al., (see figures 6a, 6b, 35, and 36) and Belohlavek, (see figure 7)).

The examiner asserts a final point of argument in support of the above position. If Applicant intends a certain term to mean something more specific with direct reference to his/her specification, Applicant is definitely allowed to be his/her own lexicographer. However the Applicant must remember that, a term in a claim may not be given a meaning repugnant to the usual meaning of that term. See *In re Hill*, 161 F.2d 367, 73 USPQ 482 (CCPA 1947). Accordingly, in so far as there is already a simple and understood meaning to the terms "convex" and "hull", any argument that such terms mean more will be repugnant to those already accepted meanings.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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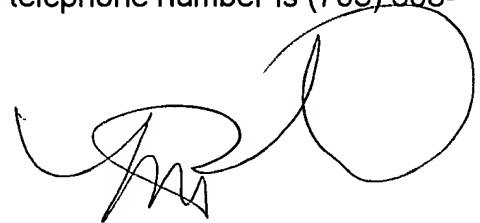
mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David M Ruddy whose telephone number is (703) 308-3595. The examiner can normally be reached on Mon-Fri 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (703) 308-0994. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-0758 for regular communications and (703) 308-0758 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

DR
August 12, 2001



LINDA C. M. DVORAK
SUPERVISORY PATENT EXAMINER
GROUP 3700